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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,925	12/14/2004	Albert Hendrik Jan Immink	NL 020504	6892

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EXAMINER	
HEYI, HENOK G	
ART UNIT	PAPER NUMBER
2627	
MAIL DATE	DELIVERY MODE
09/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,925	IMMINK ET AL.	
	Examiner	Art Unit	
	HENOK G. HEYI	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-14,16-20 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 07/18/2008 have been fully considered but they are not persuasive. Applicant argues that Oonuki does not teach "control information is obtained from a deviation of a maximum value of a phase error of said recovered clock signal from a predetermined set value" but Oonuki teaches that the data channel clock that is generated and extracted by clock extraction circuit and PLL from tracking error signal generating pits to control magnetic field application unit (see para [0046] and para [0047]).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,3-7,9-14,16-20,22-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Oonuki EP 0913818 A1.

Re claim 1, Oonuki teaches a reading method for reading a magneto-optical recording medium (see Fig. 1), comprising a storage layer (5) and a readout layer (4), wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power and with the aid of an external magnetic field (a magneto-optical

recording medium comprising, at least a magnet-optical recording layer and auxiliary layers, when irradiated with reproducing light beam, a recording magnetic domain is magnified and transferred to the auxiliary layer, para [0007]), said method comprising the steps of: a) controlling the size of a spatial copy window (magnetic domains is adjusted so as to be smaller, para [0078]) of said copying process by varying a predetermined reading parameter in response to a control information derived from said readout pulse (the size of the magnetic domain should be smaller than that of recording magnetic layer, para [0012]), b) applying a predetermined additional pattern of change to said predetermined parameter (see para [0015] and para [0027]), and c) obtaining said control information from a deviation of a clock signal (the data channel clock controls encoder of the magnetic field application unit so that it generates a data signal of the reference clock period, para [0047]), wherein said clock signal is recovered from said readout pulse from a wobbled groove, or from embossed marks provided on said recording medium, or from any combination thereof (in a wobble-type land/groove construction, a clock can be generated, [0062]), wherein said control information is obtained from a deviation of a maximum value of a phase error of said recovered clock signal from a predetermined set value (a control unit for controlling at least one of the magnetic head and optical head in accordance with the reproducing clock in order to pulse-modulate at least one of the reproducing magnetic field in accordance with the reproducing clock, para [0027]).

Re claim 3, Oonuki teaches a method according to claim1, wherein said predetermined parameter corresponds to the value of said radiation power (when irradiated with a reproducing light beam, a recording magnetic domain recorded in the magneto-optical recording layer is magnified and transferred to the auxiliary magnetic layer, para [0007]).

Re claim 4, Oonuki teaches a method according to claim 1, wherein said predetermined parameter corresponds to the strength of said external magnetic field (a recorded signal is reproduced by applying to a magneto-optical recording medium an external magnetic field, para [0025]).

Re claim 5, Oonuki teaches a method according to claim 1, wherein said predetermined parameter corresponds to a combination of the value of said radiation power and the strength of said external magnetic field (when irradiated with a reproducing light beam, a recording magnetic domain recorded in the magneto-optical recording layer is magnified and transferred to the auxiliary magnetic layer, para [0007] and a recorded signal is reproduced by applying to a magneto-optical recording medium an external magnetic field, para [0025]).

Re claim 6, Oonuki teaches a method according to claim 5, wherein one of said values of said radiation power and said strength of said external magnetic field is used for coarse control and the other one is used for fine control (a signal detected from pits, fine clock marks or wobble-shaped grooves formed in the magneto-optical recording medium, para [0028]).

Re claim 7, Oonuki teaches a method according to claim 4, wherein said strength of said external magnetic field is varied by varying a coil current of a magnetic head (the data signal is sent to magnetic coil drive circuit, para [0047]).

Re claim 9, Oonuki teaches a method according to claim 1, wherein said predetermined additional change pattern is a periodic pattern of a predetermined frequency (laser is modulated with a fixed frequency by laser drive circuit such that it is synchronized with the data channel clock, para [0047]).

Re claim 10, Oonuki teaches a method according to claim 9, wherein said periodic pattern is a sinusoidal pattern (a sine wave can be employed so long as it provides a gradual increase of magnetic field, para [0070]).

Re claim 11, Oonuki teaches a method according to claim 9, wherein said periodic pattern is a square-wave pattern (even a square wave can be employed, para [0070]).

Re claim 12, Oonuki teaches a method according to claim 11, wherein the frequency of said square-wave pattern corresponds to half of a bit frequency or an integer multiple of half of the bit frequency (the frequency of the pulse-modulated reproducing light beam is twice the frequency of the pulse-modulated reproducing magnetic field, page 20 line 13).

Re claim 13, Oonuki teaches a method according to claim 1, wherein said clock signal is recovered by using a phase-locked loop function (PLL circuit /phase locked loop/ is constituted so as to generate one or more clock periods, para [0064]).

Re claim 14, Oonuki teaches a reading apparatus for reading from a magneto-optical recording medium comprising a storage layer and a readout layer, wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power and the aid of an external magnetic field (a magneto-optical recording medium comprising, at least a magnet-optical recording layer and auxiliary layers, when irradiated with reproducing light beam, a recording magnetic domain is magnified and transferred to the auxiliary layer, para [0007]), said apparatus comprising: a) control means for controlling the size of a spatial copy window of said copying process by varying a predetermined reading parameter in response to a control information derived from said readout pulse (the size of the magnetic domain should be smaller than that of recording magnetic layer, para [0012]), b) change means for applying a predetermined additional pattern of change to said predetermined parameter, and c) clock recovery means for obtaining said information from a deviation of a clock signal (the data channel clock controls encoder of the magnetic field application unit so that it generates a data signal of the reference clock period, para [0047]), wherein said clock recovery means is arranged to recover said dock signal from said readout pulse, from a wobbled groove, or from embossed marks provided on said recording medium, or from any combination thereof (in a wobble-type land/groove construction, a clock can be generated, [0062]), wherein said clock recovery means is arranged to obtain said control information from a deviation of a maximum value of a phase error of said clock signal from a predetermined

set value (a control unit for controlling at least one of the magnetic head and optical head in accordance with the reproducing clock in order to pulse-modulate at least one of the reproducing magnetic field in accordance with the reproducing clock, para [0027]).

Re claim 16, Oonuki teaches a reading apparatus according to claim 14, wherein said control means is arranged to vary said radiation power (the reproducing laser beam power is adjusted, [0017]).

Re claim 17, Oonuki teaches the reading apparatus as claimed in claim 14, wherein said control means varies said external magnetic field (in this apparatus, a magneto-optical recording disc is employed wherein not just the external magnetic field but also the reproducing light beam is pulse modulated in synchronism with a reproduction clock, see page 7 lines 22-25).

Re claim 18, Oonuki teaches a reading apparatus according to claim 14, wherein said control means is arranged to vary the value of said radiation power and the strength of said external magnetic field in combination (when irradiated with a reproducing light beam, a recording magnetic domain recorded in the magneto-optical recording layer is magnified and transferred to the auxiliary magnetic layer, para [0007] and a recorded signal is reproduced by applying to a magneto-optical recording medium an external magnetic field, para [0025]).

Re claim 19, Oonuki teaches a reading apparatus according to claim 18, wherein said control moans is arranged to use one of said values of said radiation power and said strength of said external magnetic field for coarse control and the other one for fine

control (a signal detected from pits, fine clock marks or wobble-shaped grooves formed in the magneto-optical recording medium, para [0028]).

Re claim 20, Oonuki teaches a reading apparatus according to claim 14, also comprising field control means for sustaining said external magnetic field until said mark region is copied and for reversing said external magnetic field in response to detection of said readout pulse (the recording signal is produced by applying to the magneto-optical recording medium an external magnetic field, para [0024]).

Re claim 22, Oonuki teaches a reading apparatus according to any one of the claims 14 to 21, wherein said clock recovery means comprises a phase-locked loop circuit (PLL circuit /phase locked loop/ is constituted so as to generate one or more clock periods, para [0064]).

Re claim 23, Oonuki teaches a reading apparatus according to claim 14, wherein said change means is arranged to use a periodic pattern of a predetermined frequency as said predetermined additional change pattern (laser is modulated with a fixed frequency by laser drive circuit such that it is synchronized with the data channel clock, para [0047]).

Re claim 24, Oonuki teaches a reading apparatus according to claim 23, wherein said periodic pattern is a sinusoidal pattern (a sine wave can be employed so long as it provides a gradual increase of magnetic field, para [0070]).

Re claim 25, Oonuki teaches a reading apparatus according to claim 23, wherein said periodic pattern is a square-wave pattern (even a square wave can be employed, para [0070]).

Re claim 26, Oonuki teaches a reading apparatus according to claim 25, wherein the frequency of said square-wave pattern corresponds to half of a bit frequency or an integer multiple of half of the bit frequency (the frequency of the pulse-modulated reproducing light beam is twice the frequency of the pulse-modulated reproducing magnetic field, page 20 line 13).

Re claim 27, Oonuki teaches a reading apparatus according to claim 14, wherein said reading apparatus is a disk player for MAMMOS disks (a magneto-optical recording disk is employed, page 7 line 23 and also a magneto-optical recording medium comprising, at least a magneto-optical recording layer, para [0007] and para [0011] line 5).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TAN Xuan DINH/
Primary Examiner, Art Unit 2627
September 23, 2008

/Henok G Heyi/
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